of change management are the CLECs going to be, you know, part of that change management process?

MR. LENAHAN: Well, I don't know the facts on the software upgrade. I assume the software upgrade was not intended as hostile act but to improve the processing capability of our systems.

And with respect to change management, the intent of change management is to advise the CLECs of changes that will affect their interfaces, or the rules or the business rules that they need to know in order to successfully interface with the company.

So I can look into the facts and get back to you. You know, this is the first time I have heard about the software upgrade. But to the extent it was an upgrade that affected your interface, our intent would be to give you advance notice so that you know about it.

MR. LYNCH: Can I make a comment -- can I make an associated comment here?

I don't know about this particular instance and I really don't care. But I think one of the things that is important here is that up until at least this point in time a number of the RBOCs, as they have designed their systems, have said here is the documentation, all 4,000 pages of it, and sort of take it or you don't. But this is the way it's going to be.

One of the things I think that's going to become very important over the next little while is that there is strong cooperation from whether it be the provider of those services and the purchaser of those services, and that really has not been the case to this point in time.

We have gone -- NYNEX puts out lots of documentation, and sort of the environment "Like it or lump it." And I think it's important for the embedded LECs to begin to have these discussions that meets our needs as new incumbents, and I suspect a piece of that is going to be dealing with the capacity issues that we spoke about earlier.

I think, for example, the comment that the gentleman raised, those are the kinds of dangers that we haves if we don't have this communication going.

MR. WELCH: I think we have time for maybe one more question.

MR. TERRESKI: I am David Terreski from Associated Communications. I just want to make a point on the cost discussion, and I want you to think for a moment of what occurred about pains for these OSS systems. From the perspective of a new entrant, and who does not yet rate on this size or scale. What we just heard is that there are separate thoughts, and that they want a new entrant to pay for the OSS system, all of which are different. And the

differences among them constitute entrance barrier because it is an enormous cost for a new entrant to try to deal with eight different kinds of systems, unbundled elements, on resale and the like. And not only do we have to try to develop our own systems to pay for dealing with them, but they also want us to pay for their development of systems which themselves constitute entry barrier. That really is a problem, and I would encourage that the FCC bear that in mind when they consider any of these cost issues.

MR. WELCH: Does anyone on the panel want to respond to that?

MR. LYNCH: He is absolutely right.

(Laughter.)

MS. BINGAMAN: Me too.

MR. LYNCH: No, I mean, again, part of the issue here too, again, if we are supposed to be developing into a competitive market here, any competitor or any provider of services in most cases bear their own costs.

I mean, again, as in your case, no one is going to pay for MCI to develop systems. There is no trough out there that we can go to. We have to bear that in our margins. And I think, as you outline, it's certainly very reasonable and I think it's something for the FCC to definitely consider.

Anne wants to say something.

(Laughter.)

MS. BINGAMAN: I understand this because -- here is the point. If there were one national interface system, the dream day that we are all working toward that the Commission's order after December said would be useful and would open the market nationally, and it will. There are 200 small members of COMTEL who operate in many different states who have to interface.

The desirability of that is obvious. What you would see if you work toward that immediately, and the Commission drove this, it would drive competition because software developers would see a huge market. You would get people in writing software, writing the best software, selling it cheaply. You wouldn't have to go through what we are right now, this torturous, and it's true, eight across different systems that in fact sometimes they change by state. The USOCs change. There is all sort of internal variations as well.

So a national system would generate an independent third party vendor group of software that I think itself would drive the price down and really open the market, and you would have real competition because OSS would be widely available at a cheap price.

MR. WELCH: Okay. Well, we are just about out of time. I would like to thank your panelists, Ann Bingaman,

Don Lynch, Kevin Snyder, John Lenahan, Commissioner Majkowski, Katheryn Brown and Don Russell. Thank you very much.

(Applause.)

MR. WELCH: We will take a short break, 15 minutes. We will resume promptly at noon with our next panel on pre-ordering.

(Whereupon, a recess was taken.)

MR. WELCH: Could we please get started? Could everyone take their seats? We will get started with the next panel.

Our next panel will be on the topic of pre-ordering. We are, after having this sort of general panel, the next four panels that we will have today, and then three tomorrow will explore in more detail some of the more specific aspects of OSS, and, again, this panel will be on pre-ordering.

We have five people on this panel, and I'm not sure if I have got them in order here, but I will go right to left this time to confuse everybody. On the far right hand of the table we have Stuart Miller from NYNEX. Stuart is Assistant Vice President for Access Systems. To his right is Robert van Fossen from US West. Bob is a Senior Director of Systems Planning and Development. To Bob's right is Carol Bussing from Sprint. She is Assistant Vice

President for Systems Integration and Planning. Next to Carol is David White who is with ACSI, Vice President of Quality and Information Systems; and then to the far left we have Mark Sikora who is from GE Information Services. GE brings good things to life, I believe, is the -- including OSS, right?

Okay, we will proceed on the same format that we did before, except we will reverse order and go from Stuart across, and everyone will have three minutes to make brief opening remarks, and then we will have some questions from the Bureau, and then hopefully some time for some questions from the audience.

So, Stuart, if you could kick things off, please.

MR. MILLER: Thank you. Since October 1996, NYNEX has offered the CLEC electronic interfaces to NYNEX Operating Support System functions, including without limitation the pre-ordering functions. To facilitate the support to CLECs, NYNEX has established a strategy which was first to rapidly deploy basic capabilities and functionalities. Secondly, we wanted to provision a low cost entry for small competitors who would want to get into the market quickly. Thirdly, we realized we were going to have to provide multiple alternative interfaces, mainly because of the lack of existence of standards and because of the different ways in which many of the competitors would

want to interface with us. And we would definitely therefore have to commit to grandfathering our own interfaces where national standards ultimately came along.

To give you some scale of reference, we currently have 19 resellers and three unbundling companies actively using these electronic interfaces. To date, from October to the beginning of May, about 22,000 CSRs had retrieved through the interface directly without any human hand touching these CSRs. That's for resale. In addition, another 8,500 for unbundled elements related CSRs were retrieved with direct flow-through, and all of those were through electronic interface.

To facilitate our process, NYNEX has trained 180 people from 31 companies on how to interface with our systems. This year we trained -- that was in 1996. This year we trained another 130 resale students. We have trained 63 students from eight companies on how to interface with us to order unbundled elements.

It's our intent to ensure the competing CLECs are given sufficient access to function. There are no material restraints on the CLEC's ability to perform pre-ordering, ordering, provisioning, maintenance repair and billing for both resold and unbundled elements in substantially the same time and manner that NYNEX does for itself.

I would like to concentrate on the pre-order

functionalities that NYNEX offers to CLECs. I want to stress one point, and that is that these functionalities provide a CLEC representative with the opportunity to perform equivalent work of equivalent quality and with equivalent effort required by a NYNEX retail representative. That pre-order data is resident, of course, in NYNEX's in place Legacy systems.

The first five functionalities for pre-order are common to both resellers and purchasers of UNE; that is, customer service records via CRISP billing, validation of a customer's address, the assignment and reservation of a telephone number, due date availability, and product and service availability. And these functionalities use the same data as NYNEX's retail representatives.

In addition, we have four new functionalities that are being offered specifically to meet the needs of purchasers of unbundled elements: channel facility assignments, silly code validation, loop qualification for ISD lines, and CSRs which may be maintained on the CAB system for FCC type services.

For resale activities, all pre-order transactions are conducted exclusively across the electronic interface. Pre-order transactions for UNEs, however, have been somewhat slower to come through one of the electronic bases, although we now have assurances from many customers, from many CLECs,

that is, that electronic transmission will soon be the case.

As you might expect, our interfaces typically provide a mediated access to ROSS suite. It's our position that mediated access provides the best architecture for the wide variance of CLEC requirements and rapid modification of those requirements. We believe that our early production experience will lead us to improve these services as we go forward.

NYNEX provides access to most of its OSS pre-order functions via its Direct Customer Access System, DCAS. This gateway permits wholesalers to use either an application-to-application interface, or a Web/graphic user interface, or WEB/GUI. The AP to AP interface supports all interactions, including large-scale commercial transactions. The Web/GUI is a user to system electronic interface option intended for smaller-scale carriers who seek quick market entry combined with low investment and an easy solution.

While wholesalers must interface with NYNEX to access the information they require, how they choose to interface is dependent on their own evaluation of their business requirements.

I would just like to finally list some issues which I think are pertinent to this particular discussion.

First, the practices adopted by retail CLECs in servicing their customers will vary. Their marketing

practices, their phone contact techniques, their cold canvassing procedures, and mass marketing efforts will demand various degrees of electronic sophistication and various protocols between their sales forces and their customers. NYNEX cannot anticipate what these practices may demand, and therefore we have adopted a flexible strategy that can accommodate an evolving environment.

The second issue is that such an environment -- in such an environment nondiscriminatory access does become difficult to define. It can no longer exist at the system transaction level, but now must take place at the business transaction level. For example, a system transaction might be defined as retrieving one page of a CRS or customer service record, whereas a business transaction could be defined as the set of system transactions which combined to accomplish the definition and completion of a retail customer service order.

The third issue in a commercial environment I am not going to dwell upon. It was addressed by the first panel, which is the issue of the relationship between supplier and customer in terms of forecasting the capacity of volume that is going to be submitted. Definitely there are sizing implications in that.

And last, but certainly not least, is the complex issue of the interface specifications themselves. How does

an industry establish standards for a multiplicity of interfaces involving a myriad of customers operating regionally in demographically different environments?

We heard in the earlier panel about the difficulties that the CLECs have in interfacing in up to eight different interface specs. The reverse can also, of course, be true in the other sense. That if the CLECs have their own specific requirements for interfacing, then the incumbent LECs also have to provide those interfaces. So clearly the demand for national standards is a very important issue.

And that's it, Richard. Thank you.

MR. WELCH: Thank you, Stuart. Of all the acronyms that we have to deal with in the telephone word, GUI is clearly one of my favorites. It just doesn't get much better than that.

(Laughter.)

We will now hear from another incumbent, Bob van Fossen from US West. Bob.

MR. VAN FOSSEN: Thank you very much, Richard.

The subject of this panel today is pre-ordering and the activities and safeguards necessary to ensure nondiscriminatory access to operation systems in this area. For US West, the pre-ordering functions consist of a customer record retrieval, address verification, service

availability verification, facility availability verification, telephone number assignment, and appointment reservation; all facilitated through electronic flow-through.

US West Communications has invested a significant amount of effort since the release of the FCC first order last August in defining and implementing pre-order transactions for both its interconnection mediated access gateway and in the creation of specifications for an EDI gateway.

What we have found are some fundamental misconceptions about how the pre-order transactions are thought of in relation to the ordering process, and some problems that could arise as a result of these misconceptions.

The line between pre-ordering tasks and ordering tasks for the purposes of resale or unbundling is very thin. The idea that pre-ordering is a set of tasks separate and distinct from ordering is inaccurate. The concept of independence stems from the adaptation of telephony ordering and pre-ordering processes to the EDI model and way that do not always maintain the integrity of the original business model.

Rather, I would offer that the pre-ordering and order transactions are co-dependent in quality, such that

the quality and timeliness of order fulfillment, or the provisioning of service for the end customer, is critically dependent on the quality of the pre-ordering transactions and vice-versa.

Let's take the example of the pre-order transaction to validate the service address for the customer. Addresses are widely recognized to be very difficult to match. The customer service representative, together with the aid of the customer, select from multiple similar definitions of addresses to identify the proper location of the customer. Collectively, the industry would be overwhelmed with system issues if we were -- if there were to be inaccurate communication between the ILEC and the CLEC on a customer address as part of the order. The use of the pre-order address validation transaction can prevent this type of problem.

Conversely, the quality of several pre-order transactions are also dependent on timely knowledge about what is being ordered. Let's use another example. In this case, the capability to accurately estimate the work effort required to install a service.

As companies continue to work on the efficiency of the field technician, jobs are scheduled in higher and higher levels of granularity, with almost no buffer time in between tasks. The job of scheduling the calendar is no

longer hit or miss in the fashion of red, yellow and green lights. Complex software has been developed instead based on information contained in the service order to determine the length of the job and the next available appointment. Any scheduling conducted without ordering information is at best a guess. This kind of uninformed scheduling could result in missed appointments or in customers' appointments being pushed to a later date when in fact they could have been worked in a smaller interval.

This quality co-dependency needs to be accounted for in our gateway systems designs and our work on national standard for pre-ordering.

Digressing for just a moment I would like to make a point about the national standards in this areas of pre-ordering. The standards work on pre-ordering, as we have heard this morning, needs to be worked aggressively as order has been to date. The work on ordering via an LSR request has nearly flown through the standards process with a speed previously unheard of in recent times. The pre-ordering transactions, on the other hand, have taken a second priority and are not scheduled to be issued until about the third quarter of this year.

While I'm not challenging the relative priority of the ordering versus the pre-ordering, we do have to work these two subjects together in parallel. In the meantime,

LECS and CLECs are forced to develop proprietary solutions which will eventually cause rework as the standards are developed. Without diminishing in any way the importance of the quality of access to operation systems, it is clear that in the end nondiscriminatory treatment will be measured in terms of the service that is provided to the end customer. As we go forward, choices that are made in how pre-ordering transactions are conducted will have a significant impact on the quality of service to that customer.

MR. WELCH: Thank you.

Next, we will hear from Carol Bussing from Sprint. Carol.

MS. BUSSING: Thank you. I appreciate the time to talk to you about the first process in the customer life cycle, which is called pre-ordering.

As a CLEC, we need the tools and access to data that makes the customer's first experience with Sprint at least as good as that with the ILEC. The whole purpose here is about the customer. Accessibility and timeliness of all customer information is critical to providing the level of service expected by those customers. In order to achieve a competitive environment and to satisfy requirements of the Telecom Act, Sprint requires systems parity. The primary area in which the ILEC can concurrently respond quickly to their retail customers include, which have already been

named by my two partners on the right, but I will do it again just so you don't forget them.

Number one, validation of a customer street address; two, services that are available at the customer service address; three, the ability to have the customer choose and assign a working telephone number -- minor detail; and any information of customer service or history.

Having to call the customer back due to the lack of available information is unacceptable to the customer and to the ILEC competitors.

In the area of OSS, there is a key business function called pre-order. This is a process that needs to be as real time is possible, because you have the customer on the phone. This process involves the compilation of data needed in preparation for service order. As per the FCC's order in Docket 9698, these interfaces should be electronic, machine to machine, and should not rely on having human intervention in the transfer of that data.

Pre-ordering is a process whereby local service providers and network providers exchange information regarding retail services, unbundled network elements and combinations of those network elements.

To meet the FCC order, the ILECs have developed in most cases, (a), your favorite, GUI, graphical user interface in front of their Legacy or Retail systems. As

depicted in this chart over here, you will see that none of these systems are alike. No two are alike. All have different names, and there is significant training and expenses to CLECs in this kind of environment.

As a interim measure, Sprint has reluctantly had to accept these tools to get into market. Most GUI tools are not robust, and require phone calls to the ILEC that impact the level of service that we can provide our customers. The CSR's critical information, Sprint needs access real time while the customer is on the line. The ILEC today in most cases do not provide online access to that customer service record information, nor is the information consistent ILEC to ILEC. I think this was visually demonstrated yesterday if you were in the USTA demos from GET, Ameritech, Bell Atlantic and NYNEX.

For example, when Sprint cannot get the necessary information on the customer's record, we have to call the ILEX, get the information, and turn around the call the customer back to close the order. The ILEC does not have this restraint when it deals with the customer. Also, system response times are of significant concern when you are live and online with that customer. The GUI tools are on a different hardware and software platform, and they have different kind of activity requirements. There has not been enough volume generated to stress those GUIs in those

applications to ensure that adequate response times can be met. You cannot sit there and talk to the customer about the weather for more than five to eight seconds.

In order to reach systems parity Sprint must have real time availability to the information resident in the ILEC's OSS infrastructure. We have got to get to the data. Only with direct excess to this information can we build the necessary and parallel processes to achieve equitable customer care treatment.

For example, the end-to-end protocol response time for all online transactions should be five seconds or less for at least 90 percent of those requests.

What is it that we need? We need electronic bonding. In order to develop the electronic bonding solution, it is key to have industry standards, so I totally concur with the both of you there. Standards are key to the equitable and real time exchange of data between CLEC and ILEC. That is when local completion will be a reality.

Thank you all very much for your time and your attention.

MR. WELCH: Thank you, Carol.

I just want to acknowledge several people have made the comment that it's hard to divorce pre-ordering from ordering, and I think we at the FCC completely agree with that. And just to dispel any confusion, the fact that they

are on separate days is only because want to let everybody get out of here at 1:00 and go to lunch, not because we think that they are separate topics that can be completely divorced.

Next, we will hear from David White from ACSI. David.

MR. WHITE: ACSI is a relatively new competitor in the local exchange environment. We have entered business into the Bell South region with resale services, and into several southern and eastern regions through our retail businesses where we provide our own switches.

Our experience to date has been very negative. We feel we are at a definite competitive disadvantage in numerous respects because of the lack of a direct interface and the lack of parity to the incumbent LEC Exchange Service Systems.

Some of the problems that we have experienced, and we are not for the record directly interconnected to any of these, and we have not to date used any of the new LEC systems that are on the board. We are being driven to that reluctantly, accepting their imperfections because the manual processing is not an acceptable alternative. We are currently seeing delays of up to 10 days for receipt of DLRs which force us to turn customers to service without knowing the line levels. So we end up with immediately maintenance

problems. We see delays of six to seven days routinely for firm order confirmations, and I do have statistics to back up any of these items I am throwing out here.

We have had numerous instances of disconnects of remotely call forwarded circuits after the time they were call forwarded and became one of our customers. We have lost customers to such outages. Customers cannot afford to be out of service for even one day, and we have lost some back to the incumbent LEC. We have seen a continuing lack of standardized intervals that are published by any of the incumbent LECS. So I am on the same bandwagon here as all of the other speakers today. We need to see some standards.

Now, what I would suggest here is that it may not be possible to standardize installation intervals, but it certainly is possible to support the performance of existing intervals. That doesn't happen today and that's not a feature that's available in any of these systems.

In a similar manner, these operational support systems that are being offered today do not allow a competitive local exchange carrier or an IXC to manage their data. You cannot go in by carrier by say "Show me all of my pending orders. Show me by back logs. Show me the intervals between the firm order confirmation date and the point the order was entered." That puts us at a significant disadvantage when we are thinking in terms of parity.

Parity for an incumbent LEC means they have that access to that data. We are at a disadvantage. We cannot manage our process as they can manage their process.

We have heard considerable discussion today also about the cost of access to the systems and who should bear it. I personally think it's very unusual for any sales organization to want to charge their customers for accepting an order from them. I think the Commission has made provisions for passing those cost on, not to the 200 or so carriers that might exist in the United States, but to the end users through the actual pricing of the services, and I would suggest that that kind of price flow-through should be considered and should not be an impediment to all of us as carriers working together to get these interfaces working. I think it's in our mutual interest to do so.

As you may have noticed in the introduction, part of my title is vice president of quality, the other is information systems. And as of Friday, it's also network operations for our company, which is truly my background.

The point here is that we have heard the issue of complexity, how complex these systems are. It was discussed several times here. As an IS professional, I take some exception to that. The solutions being delivered here are inadequate. The solutions being delivered here are really the quickest possible front-end to the existing systems that

do the work. And what we have experienced in several different cases of testing these interfaces with the incumbent LEC is they are exactly that.

For example, if you happen to enter an order through this system, you will be able to go in and check that order on a circuit-by-circuit basis. However, if you have a complex order that doesn't fit the model that this system provides you to enter through, you cannot go through this interface and look at the status of that order if it's entered behind the system. I find that highly unusual. It means half of our orders are in these systems and half of these orders are not in these systems. That's unacceptable. We need to see all of our orders, they should be apparent to us from the native system not through a front-end to the native system.

Okay, what ACSI is asking the Commission to do is certainly pursue the standardization, but don't delay the issuance of performance standards for the sake of waiting for a standardized interface to these systems.

Thank you.

MR. WELCH: Thank you, David.

And last, we will hear from Mark Sikora from GE.

MR. SIKORA: For the past 20 years major companies throughout the world have been streamlining their business processes by using electronic commerce to exchange crucial

business information. As a result of the Telecommunications Act of 1996, ILECs must provide CLECs electronic access to information to support the business processes associated with pre-ordering, ordering, maintenance and repair, billing, and other business functions without detailed specifications of the technology to be used to transfer this information.

ATIS, special interest groups, ANSI subcommittees, vendors, and consultants have been left to sort through the state of the art in electronic commerce technology available in today's market to evolve standards and methods of interconnection. This is not a new dilemma for business to solve. On the contrary, it is incumbent upon the leaders in the electronic commerce and telecommunications industry to find our own solution to this 20-year-old problem. We must temper our solution with both the requirements inherent in our industry's business processes, as well as the limitations of available technology.

Moreover, we must implement solutions which are practical and serve the time frames dictated by our business leaders, customers and regulators.

Electronic commerce is the result of electronic bonding of trading partners to form a trading community. In order of these partners to trade electronically, they must first establish business relationships and technical

relationships. During this discussion, we will concentrate on the technical considerations of electronic trading relationships.

Globally, GE Information Services has over 40,000 customers using its electronic commerce services and is considered to be the world's leading supplier of these services. We have been a first-hand witness to the challenges associates with establishing and maintaining electronic trading communities for the past 25 years. One important lesson we offer for consideration is no matter how well a hub or a spoke partner plans its external communications, or how closely they adhere to ANSI guidelines, there will always be trading partners who require special treatment.

It is our experience that even the most commonly used and well-defined electronic business documents are often negotiated for each trading partner in a community. Therefore, in order to be successful in an electronic commerce initiative each trading partner must be flexible in its implementation to accommodate variances and data formats, data representations and networking.

Another important lesson we have learned is that a new standard is likely to be a standard that will change. Both LECs and CLECS will be making substantial investments in OSS interconnection systems and processes. Some of the

largest non-DOD systems in the world, the provisioning systems of telecommunications companies, will undergo significant change to accommodate interconnection. We must prepare for changes in newly defined standards by buffering core internal business systems from changing external communication environments.

Finally, we should be cognizant of and educate our business leaders that electronic commerce program require ongoing investment and hardware, software, communications and human resources. It is impractical to expect that once the first successful test transaction goes through that the summit has been reached. It is, instead, more likely that the journey has just begun.

It's essential that we separate the business passion from the essence of the technological challenges we must address to implement interconnection. Quite simply, our challenge is to formulate electronic representation of a business transaction from the sender's proprietary system, net work it to the receiver system, trigger a response from the receiver system, and provide some sort of acknowledgement, a response to the sender, all without human intervention.

We must also consider that both the CLEC and ILEC will use the transaction contents to update their private Legacy systems. Our technical challenge is further